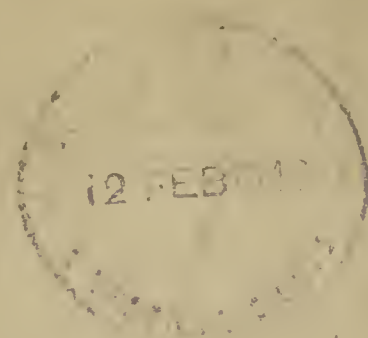


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THE

Municipality of George Town,

PENANG.


STRAITS SETTLEMENTS.

HEALTH OFFICER'S

ANNUAL REPORT

FOR THE YEAR 1940.

Printed at
The Ganesh Printing Works,
Penang.
1941



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STATISTICAL SUMMARY.

Situation	... Lat 5° 25' N., Long. 100° 20' E.
Average Elevation above L.W.M.O.S.T.	... Town area 12 feet 6 inches. Suburban area 25 feet 0 inch.
O. S. Tides and fall	... 9 feet 0 inch.
Rainfall 1940 (average of three readings within Municipal limits)	... 71.09 inches.
Average annual rainfall for preceding 60 years (including 1940) at the Prison	... 108.20 inches
Rainfall for 1940 at the Prison	... 73.79 inches
Mean Temperature 1940 (observed at 7 a.m.)	... 77.1° F.
Mean Temperature 1940 (observed at 1 p.m.)	... 88.3° F.
Mean Maximum Temperature 1940	... 90.0° F.
Mean Minimum Temperature 1940	... 75.0° F.
Absolute Maximum Temperature 1940	... 98.0° F.
Absolute Minimum Temperature 1940	... 70.0° F.
Total area of Penang Island	... 108 square miles.
Area within Municipal limits	... 5,848 acres.
Estimated population (mid-year)	... 178,826.
Density of population	... 30.58 per acre.
Corrected death rate	... 17.77 per mille.
Infant mortality	... 102.
Birth rate	... 34.28 per mille.
Sterling equivalent of Straits Dollar	... 2s. 4d.

STAFF OF THE HEALTH DEPARTMENT
ON 31st DECEMBER, 1940.

W. H. Brodie ...	M.B., Ch. B., D.P.H., Health Officer, Deputy Registrar of Births and Deaths, Deputy Superintendent of Vaccination, Registrar of Midwives, Medical Superintendent of Infectious Diseases Hospital, Medical Superintendent of Chinese Small-pox Hospital.
W. Ainslie ...	L.R.C.S., L.R.C.P., ^{L.R.F.P.&S.} L.R.C.D. , D.P.H., Deputy Health Officer, Deputy Registrar of Births and Deaths, Deputy Superintendent of Vaccination.
T. P. Khoo ...	M.B., B. S. (Hong Kong), Deputy Registrar of Deaths, Assistant Medical Officer.

Sanitary Section.

J. E. Miller	M.S.I.A., Cert. R.S.I., Chief Sanitary Inspector, joined the service 14th September, 1933.			
R. J. Rangel	Sanitary Inspector	do	1st October,	1913.
Ow Leong Chye	do	do	1st July,	1921.
E. V. Lessler	do	do	1st July,	1921.
Yeap Hin Tat	Sanitary Sub-Inspector	do	14th August,	1922.
Lim Khay Seng	do	do	1st March,	1923.
Lo Siew Tean	do	do	1st July,	1923.
Teoh Cheng Hoe	do	do	1st December,	1923.
M. S. d'Orville	do	do	18th February,	1924.
Oh Cheng Guan	do	do	18th May,	1926.
Liew Ah Foo	do	do	20th May,	1926.
Oh Cheng Ian	do	do	1st November,	1930.
Lim Teik Ghee	do	do	16th January,	1930.
C. B. de Souza	do	do	12th June,	1933.
M. B. Pestana	do	do	1st July,	1934.
Lee Yin Koon	do	do	1st January,	1935.
Lim Mah Chan	do	do	1st August,	1935.
Teoh Cheng Kooi	do	do	1st May,	1936.
Idris bin Haji Sahak	do	do	14th July,	1937.
E. D. Joseph	Chief Clerk	do	6th October,	1920.
Ooi Leong Teik	2nd Clerk	do	1st January,	1921.
Lim Chin Aun	3rd Clerk	do	17th October,	1928.
Goh Swee Hock	4th Clerk	do	1st September,	1934.

Cheah Tat Siew	5th Clerk,	joined the service	1st February,	1939.
A. W. Davidson	Milk Inspector	do	1st June,	1939.
M. R. Balakrishnan	Dresser	do	1st July,	1939.
Chembee bin Pah Etam	Assistant Dresser	do	1st August,	1939.

Maternity and Child Welfare Section.

Miss F. M. Sloan	S. R. N., S. C. M.,	Health Sister, joined the service	13th November,	1931.
Mrs. B. Noon	S. R. N., S. C. M.,	Health Sister	do	12th January, 1939.
Miss A. Wilson	S. R. N., S. C. M.,	Health Sister	do	6th May, 1940.
Lena Benjamin	Health Nurse	do	1st August,	1936.
Lim Beh Kah	do	do	1st August,	1936.
Nundha Bhuangboon	do	do	1st August,	1938.
Esther Yang Ling	do	do	1st June,	1939.
Mary Rose	Full-time Midwife	do	1st January,	1939.
Chan Ah Chee	do	do	1st January,	1939.
Tan Geok Eng	do	do	1st January,	1939.
Chee Mee Yeng	do	do	1st January,	1939.
Goh Poh Tuan	do	do	1st January,	1939.
Tay Mui Eng	do	do	1st January,	1939.
Chan Sun Peng	do	do	1st January,	1939.
Tan Choo Inn	do	do	1st January,	1939.
Pow Kooi Kee	do	do	1st June,	1940.

Conservancy Section, Markets & Baths & Street Stalls.

W. G. F. Colebeck	Cert. R.S.I., Certificated Food Inspector,	Town Superintendent, joined the service	27th August,	1936.
M. Maruthalingam	Conservancy Inspector	do	1st October,	1931.
S. M. Soosay	do	do	5th January,	1929.
W. Mesney	do	do	14th March,	1933.
Foo Joo Sun	Clerk	do	1st July,	1926.
K. S. Naidu	do	do	18th November,	1937.
G. D. Cooper	Market Inspector	do	7th October,	1935.
Lim Cheng Hoe	Asst. Inspector of Street Stalls	do	1st May,	1936.

MUNICIPAL HEALTH OFFICE,

Penang, 15th September, 1941.

To

THE MUNICIPAL COMMISSIONERS.

Gentlemen,

I have the honour to submit the following report on the health of the Municipality during 1940.

1. POPULATION.

The estimated mid-year population was 178,826. This figure is arrived at by the Registrar General's method of estimation which is commonly adopted.

The estimated distribution of the population at the middle of 1940 among the various races was as follows:—

TABLE I.

Race	Males	Females	Total	Per cent of Total
European	842	562	1,404	1
Eurasian	1,089	1,276	2,365	1
Chinese	70,041	51,135	121,176	68
Malay	11,512	11,391	22,903	13
Indian	21,920	6,950	28,870	16
Others	1,181	927	2,108	1
Total	106,585	72,241	178,826	100

2. BIRTHS.

There were 6,130 births registered of which 3,111 were of males and 3,019 of females, the birth rate being 34.28 per thousand. The figures for 1939 were, births 6,925 and birth rate 39.49.

Reckoned on the estimated female population alone, the birth rate was 84.85 per thousand compared with 97.76 per thousand in 1939.

The number of births and birth rates for the various races were as follows :—

TABLE II.

Race	Number of births			Birth rate per thousand	
	Males	Females	Total	Total Population	Female Population
European	38	35	73	51.99	129.89
Eurasian	14	29	43	18.18	33.70
Chinese	2,419	2,358	4,777	39.42	93.42
Malay	245	213	458	20.00	40.21
Indian	374	371	745	25.81	107.19
Others	21	13	34	16.13	36.68

A comparison with the births registered during the previous ten years is shown here.

TABLE III.

Year	European	Eurasian	Chinese	Malay	Indian	Others	Total
1930	61	56	4,084	674	730	25	5,630
1931	49	58	3,899	596	677	36	5,315
1932	50	63	3,739	568	679	30	5,129
1933	32	52	3,655	587	709	17	5,052
1934	39	39	3,656	568	709	26	4,977
1935	65	43	4,060	494	756	34	5,452
1936	54	45	4,546	517	772	41	5,975
1937	56	50	4,547	490	762	34	5,939
1938	52	31	4,921	497	800	40	6,341
1939	59	57	5,355	560	865	29	6,925
Average for ten years	52	50	4,246	549	746	31	5,674
1940	73	43	4,777	458	745	34	6,130

3. DEATHS.

The gross total of deaths within Municipal limits during the year was 3,642 and crude death rate 20.37; of this number 465 were not normally resident in Penang and had been less than three months within Municipal limits. Omitting these we have 3,177 deaths and a corrected death rate of 17.77 per thousand.

The following table shows the distribution of the deaths in age groups and races.

TABLE IV.

DEATHS	SEX	AGES														GRAND TOTAL
		Under 1 mth.	2-3 mths.	4-12 mths.	1-5 yrs.	6-15 yrs.	16-25 yrs.	26-35 yrs.	36-45 yrs.	46-55 yrs.	56-65 yrs.	66-75 yrs.	Over 75 yrs.	Unknown	TOTAL	
European	M	1	—	—	—	—	—	2	—	—	—	1	—	—	4	7
	F	—	—	—	—	—	—	—	—	2	—	1	—	—	3	
Eurasian	M	—	—	—	1	1	—	1	1	2	1	2	2	—	11	23
	F	2	1	—	—	1	2	—	—	2	1	2	1	—	12	
Chinese	M	80	73	112	147	50	106	138	157	224	193	109	25	—	1414	2340
	F	43	56	108	142	48	71	96	66	91	91	69	45	—	926	
Malay	M	14	11	16	23	9	13	17	14	17	20	10	7	—	171	343
	F	5	5	14	25	6	15	24	19	19	13	11	16	—	172	
Indian	M	17	10	20	28	6	31	38	40	37	33	14	5	—	279	450
	F	14	6	16	29	3	19	18	26	15	5	10	10	—	171	
Others	M	1	—	—	—	—	2	—	—	3	—	—	1	—	7	14
	F	1	2	—	—	1	1	—	—	—	1	—	1	—	7	
Total	M	113	94	148	199	66	152	196	212	283	247	136	40	—	1886	3177
	F	65	70	138	196	59	108	138	111	129	111	93	73	—	1291	
Grand Total		178	164	286	395	125	260	334	323	412	358	229	113	—	3177	

Compared with 1939, the Chinese deaths have decreased by 33, the Indian deaths by 25 and the Malay deaths by 21.

The total deaths of each race in the last ten years are shown here.

TABLE V.

Year	European	Eurasian	Chinese	Malay	Indian	Others
1931	10	26	2,244	451	489	21
1932	6	28	2,186	474	490	16
1933	6	27	2,202	485	430	22
1934	2	26	2,385	564	485	30
1935	5	34	2,267	414	469	17
1936	6	25	2,224	472	462	26
1937	6	26	2,324	386	445	21
1938	5	14	2,207	332	430	23
1939	7	20	2,373	364	475	21
1940	7	23	2,340	343	450	14

A comparison of the births and deaths of different races may be of interest.

TABLE VI.

Race	Births	Birth rate per thousand	Deaths	Death rate per thousand
European	73	51.99	7	4.99
Eurasian	43	18.18	23	9.73
Chinese	4,777	39.42	2,340	19.31
Malay	458	20.00	343	14.98
Indian	745	25.81	450	15.59
Others	34	16.13	14	6.64

There were 214 still-births reported during the year.

4. INFANT MORTALITY.

Table VII shows according to race the infant mortality, that is, deaths of children under one year of age per 1,000 births occurring during the same period, and a comparison with 1939.

TABLE VII.

RACE		Births	Deaths under one year	Infant deaths per thousand births	
		1940		1940	1939
European	....	73	1	14	17
Eurasian	....	43	3	70	88
Chinese	....	4,777	472	99	93
Malay	....	458	65	142	113
Indian	....	745	83	111	109
Others	....	34	4	118	34
Total	....	6,130	628	102	95

The chief causes of infant deaths and the mortality compared with those in previous years from the same causes are given in Table VIII.

TABLE VIII.

Chief causes of infant deaths	Infant deaths per thousand births									
	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Intestinal diseases	17	20	18	20	25	25	22	12	21	17
Respiratory diseases	28	27	27	42	38	24	32	30	23	24
Prematurity & Debility	19	19	20	27	27	24	21	18	18	18
Convulsions	45	44	48	34	32	27	22	20	14	20

These causes accounted for 488 of the 628 infant deaths which occurred.

121 infants were certified as having died from convulsions; the corresponding figure for 1939 was 97.

Table IX is given below to show a comparison between births, infant mortality and general death rate for the preceding ten years and for 1940.

TABLE IX.

Year	Estimated population	Births		Deaths under 1 year		Deaths at all ages			
		Total	Rate per thousand population	Total	Rate per thousand births	Crude Total	Corrected Total	Crude Rate	Corrected Rate
1930	146,935	5,630	38.32	809	144	3,939	3,259	26.81	22.18
1931*	149,964	5,315	35.44	690	130	3,710	3,241	24.74	21.61
1932	152,908	5,129	33.54	688	134	3,569	3,200	23.34	20.93
1933	156,014	5,052	32.38	737	146	3,592	3,172	23.02	20.33
1934	159,085	4,977	31.28	777	156	3,935	3,492	24.73	21.95
1935	162,217	5,452	33.61	807	148	3,709	3,206	22.86	19.76
1936	165,411	5,975	36.12	755	126	3,659	3,215	22.12	19.44
1937	168,667	5,939	35.21	768	129	3,697	3,208	21.92	19.02
1938	171,988	6,341	36.87	670	106	3,535	3,011	20.55	17.51
1939	175,374	6,925	39.49	661	95	3,718	3,260	21.20	18.59
Average for the preceding ten years.	160,856	5,674	35.27	736	130	3,706	3,226	23.04	20.06
1940	178,826	6,130	34.28	628	102	3,642	3,177	20.37	17.77

*Census year.

5. CAUSE OF DEATH.

In Table X the total number of deaths viz., 3,177 was certified as follows:-

Hospitals	....	995
Private Practitioners	....	898
Coroner	....	89
Deputy Registrar of Deaths	....	1,195 i.e. 37.61% of total.

TABLE X.

DEATHS	SEX	A G E S.													Total	Grand Total
		Under 1 mth.	2-3 mths.	4-12 mths.	1-5 yrs.	6-15 yrs.	16-25 yrs.	26-35 yrs.	36-45 yrs.	46-55 yrs.	56-65 yrs.	66-75 yrs.	Over 75 yrs.	Un- known		
Enteric fever ...	M.	—	—	—	3	14	36	15	7	4	—	2	—	—	81	107
	F.	—	—	—	1	5	10	5	3	—	2	—	—	—	26	
Diarrhoea ...	M.	5	6	12	19	2	2	1	2	3	3	1	1	—	57	97
	F.	2	6	9	12	—	1	2	2	1	3	2	—	—	40	
Dysentery ...	M.	—	—	—	2	3	—	4	3	10	5	—	—	—	27	37
	F.	—	—	—	1	1	2	1	—	1	3	—	1	—	10	
Remittent fever ...	M.	—	—	—	—	—	1	—	—	—	—	—	—	—	1	2
	F.	—	—	—	1	—	—	—	—	—	—	—	—	—	1	
Intermittent fever ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	—	—	—	—	—	—	—	—	1	—	—	—	—	1	
Unspecified fever ...	M.	—	14	22	36	14	18	21	14	26	6	3	1	—	175	377
	F.	3	4	22	55	24	17	31	22	15	6	2	1	—	202	
Syphilis ...	M.	1	1	1	—	—	1	2	1	3	2	2	—	—	14	21
	F.	—	1	—	—	—	2	3	—	1	—	—	—	—	7	
Puerperal fever ...	F.	—	—	—	—	—	2	2	—	—	—	—	—	—	4	4
Other septic diseases ...	M.	4	3	5	7	—	4	8	9	5	11	3	1	—	60	95
	F.	1	3	8	6	1	1	—	4	7	3	—	1	—	35	
Pulmonary Tuberculosis	M.	—	—	—	1	2	35	82	63	57	36	4	3	—	283	373
	F.	—	—	—	—	2	19	25	17	18	6	3	—	—	90	
Other tubercular diseases	M.	—	—	3	7	3	2	2	5	—	1	—	—	—	23	38
	F.	—	—	3	6	2	1	1	1	1	—	—	—	—	15	
Leprosy ...	M.	—	—	—	—	—	1	—	1	—	—	—	—	—	2	7
	F.	—	—	—	—	—	1	—	2	—	2	—	—	—	5	
Tetanus ...	M.	—	—	—	1	—	—	—	1	—	—	—	—	—	2	5
	F.	1	—	—	1	—	—	1	—	—	—	—	—	—	3	
Diphtheria ...	M.	—	1	1	11	1	—	—	—	—	—	—	—	—	14	22
	F.	—	—	—	4	4	—	—	—	—	—	—	—	—	8	
Influenza ...	M.	—	—	2	1	—	—	—	—	1	—	—	—	—	4	8
	F.	—	—	—	1	—	1	—	—	—	—	1	1	—	4	
Whooping Cough ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	—	—	1	—	—	—	—	—	—	—	—	—	—	1	
Cerebro-Spinal Meningitis	M.	—	1	—	1	—	—	—	—	—	—	—	—	—	2	2
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Measles ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	—	—	—	1	—	—	—	—	—	—	—	—	—	1	
Typhus Fever ...	M.	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Carried Forward ...	M.	10	26	46	89	39	100	136	106	109	64	15	6	—	746	1199
	F.	7	14	43	89	39	57	71	51	45	25	8	4	—	453	

DEATHS	SEX	A G E S.													Total	Grand Total
		Under 1 mth.	2-3 mths.	4-12 mths.	1-5 yrs.	6-15 yrs.	16-25 yrs.	26-35 yrs.	36-45 yrs.	46-55 yrs.	56-65 yrs.	66-75 yrs.	Over 75 yrs.	Un-known		
Brought forward ...	M.	10	26	46	89	39	100	136	106	109	64	15	6	—	746	1199
	F.	7	14	43	89	39	57	71	51	45	25	8	4	—	453	
Malaria ...	M.	—	—	—	—	—	2	4	2	6	1	—	—	—	15	28
	F.	—	—	—	1	1	3	2	—	4	1	—	1	—	13	
Worms ...	M.	—	—	—	4	—	1	—	—	1	—	—	—	—	6	10
	F.	—	—	—	3	—	—	—	—	—	1	—	—	—	4	
Rheumatism ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
	F.	—	—	—	—	—	—	—	—	—	—	1	—	—	1	
Cancer ...	M.	—	—	—	1	—	1	—	5	9	11	3	—	—	30	60
	F.	—	—	—	—	—	1	4	9	9	7	—	—	—	30	
Anaemia ...	M.	—	—	1	—	—	2	1	2	6	2	1	—	—	15	25
	F.	—	—	1	1	1	2	2	2	—	—	1	—	—	10	
Beri-beri ...	M.	—	—	5	3	—	2	2	3	8	1	1	—	—	25	46
	F.	—	—	—	—	2	4	9	3	2	—	—	1	—	21	
Premature birth ...	M.	43	—	—	—	—	—	—	—	—	—	—	—	—	43	78
	F.	34	1	—	—	—	—	—	—	—	—	—	—	—	35	
Old age ...	M.	—	—	—	—	—	—	—	—	2	51	57	21	—	131	240
	F.	—	—	—	—	—	—	—	—	1	16	40	52	—	109	
Convulsions ...	M.	10	24	37	28	2	—	—	—	—	—	—	—	—	101	179
	F.	2	18	30	27	1	—	—	—	—	—	—	—	—	78	
Other diseases of Nervous system	M.	1	3	2	1	1	2	1	1	—	2	—	—	—	14	21
	F.	—	2	1	2	1	—	—	—	—	—	1	—	—	7	
Organs of special sense ...	M.	—	—	—	3	—	1	—	—	—	1	—	—	—	5	6
	F.	—	—	—	1	—	—	—	—	—	—	—	—	—	1	
Circulatory system ...	M.	5	—	—	—	3	6	15	20	46	47	23	7	—	172	278
	F.	2	2	1	1	3	4	8	10	20	21	27	7	—	106	
Carried Forward ...	M.	69	53	91	129	45	117	159	139	187	180	100	34	—	1303	2171
	F.	45	37	76	125	48	71	96	75	81	71	78	65	—	868	

DEATHS	SEX	A G E S .													Total	Grand Total
		Under 1 mth.	2-3 mths.	4-12 mths.	1-5 yrs.	6-15 yrs.	16-25 yrs.	26-35 yrs.	36-45 yrs.	46-55 yrs.	56-65 yrs.	66-75 yrs.	Over 75 yrs.	Un- known		
Brought forward ...	M.	69	53	91	129	45	117	159	139	187	180	100	34	—	1303	2171
	F.	45	37	76	125	48	71	96	75	81	71	78	65	—	868	
Bronchitis ...	M.	—	9	6	9	2	—	2	18	18	20	2	2	—	88	136
	F.	—	4	3	9	—	1	6	5	11	7	2	—	—	48	
Pneumonia ...	M.	5	16	14	31	5	10	9	7	9	5	4	—	—	115	201
	F.	1	9	22	24	4	9	2	7	3	2	1	2	—	86	
Other diseases of respiratory system ...	M.	13	6	15	16	2	—	2	6	6	6	2	—	—	74	137
	F.	8	3	14	22	3	3	3	2	3	—	2	—	—	63	
Enteritis ...	M.	6	6	16	8	—	—	—	—	—	1	—	—	—	37	74
	F.	3	7	14	6	—	—	—	—	2	4	1	—	—	37	
Diseases of liver ...	M.	2	—	1	—	1	—	2	7	7	3	1	—	—	24	30
	F.	—	1	—	—	—	—	—	3	1	1	—	—	—	6	
Other diseases of digestive System ...	M.	5	—	2	3	1	7	9	18	13	6	5	1	—	70	95
	F.	1	2	4	3	—	1	3	3	6	2	—	—	—	25	
Lymphatic system ...	M.	—	—	—	—	1	1	—	1	—	—	—	—	—	3	3
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Glandlike organs of uncertain use ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
	F.	—	—	—	—	—	—	1	2	—	—	—	—	—	3	
Urinary System ...	M.	—	—	1	2	5	6	6	11	31	19	19	2	—	102	177
	F.	—	—	3	4	4	8	10	7	14	16	4	5	—	75	
Generative organs ...	M.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
	F.	—	—	—	—	—	—	1	1	2	—	—	—	—	4	
Child birth and abortion...	F.	—	—	—	—	—	9	12	5	—	—	—	—	—	26	26
Bones and Joints ...	M.	—	—	—	—	1	—	—	—	1	—	—	—	—	2	2
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Accident & Negligence ...	M.	—	—	—	1	3	7	5	1	3	1	1	—	—	22	31
	F.	—	—	—	3	—	—	—	—	—	2	4	—	—	9	
Homicide, Suicide and Execution ...	M.	—	—	—	—	—	3	2	4	4	2	—	—	—	15	27
	F.	—	—	—	—	—	6	4	—	1	1	—	—	—	12	
Debility ...	M.	13	4	2	—	—	—	—	—	1	3	—	1	—	24	45
	F.	7	7	2	—	—	—	—	—	2	2	—	1	—	21	
Unknown ...	M.	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
	F.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diabetes ...	M.	—	—	—	—	—	—	—	—	3	1	2	—	—	6	14
	F.	—	—	—	—	—	—	—	1	3	3	1	—	—	8	
Total ...	M.	113	94	148	199	66	152	196	212	283	247	136	40	—	1886	3177
	F.	65	70	138	196	59	108	138	111	129	111	93	73	—	1291	

A comparison between the number of deaths attributed to some of the principal causes in 1940 and in the preceding ten years is shown here.

TABLE XI.

Disease	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	Average for pre- ceding ten years	1940
Pulmonary Tuberculosis	374	420	324	232	276	251	304	293	305	382	316	373
Pneumonia	249	231	120	116	155	159	147	166	125	148	162	201
Bronchitis	122	106	155	190	175	154	178	137	184	146	155	136
Other Respiratory Diseases	145	226	224	227	400	297	253	274	240	187	247	137
Circulatory System....	190	190	224	256	317	266	284	265	248	269	251	278
Enteric Fever	15	25	37	21	16	24	23	24	39	152	38	107
Enteritis	62	68	72	51	69	89	123	81	59	111	79	74
Dysentery	49	58	32	27	36	35	23	30	28	32	35	37
Diarrhoea	158	116	110	108	93	109	110	102	73	110	109	97
Other Diseases of Digestive System	62	51	64	48	59	80	83	91	90	88	72	95
Urinary System	98	105	145	162	214	140	171	180	171	179	157	177
Malaria	89	72	57	51	25	37	32	28	31	25	45	28
Unspecified Fever	400	427	507	523	507	443	406	458	446	387	450	377
Syphilis	53	48	53	46	48	33	22	21	16	20	36	21
Convulsions	360	316	303	320	213	216	199	179	154	135	240	179
Other Septic Diseases	85	80	72	79	69	76	56	85	78	81	76	95
Beri-beri	14	30	50	92	114	57	63	56	34	79	59	46
Debility	69	51	50	52	56	67	46	35	32	44	50	45
Premature Birth	62	64	67	61	89	91	102	100	89	87	81	78
Old Age	255	236	237	221	254	249	226	258	242	249	243	240

The distribution of the chief causes of death among the various races is shown in Table XII.

TABLE XII.

Cause of death		European	Eurasian	Chinese	Malay	Indian	Others	Total
Pulmonary Tuberculosis	....	—	5	299	23	44	2	373
Pneumonia	....	1	3	146	9	42	—	201
Bronchitis	....	—	—	110	7	19	—	136
Other Respiratory Diseases	....	—	1	107	7	21	1	137
Circulatory System	....	3	6	202	25	39	3	278
Enteric Fever	....	—	—	96	1	8	2	107
Enteritis	....	1	—	63	4	6	—	74
Dysentery	....	—	—	34	—	3	—	37
Diarrhoea	....	—	—	77	5	15	—	97
Other Diseases of Digestive System	....	—	—	84	—	11	—	95
Urinary System	....	—	2	139	16	19	1	177
Malaria	....	1	—	23	1	3	—	28
Unspecified Fever	....	—	—	222	91	63	1	377
Syphilis	....	—	—	12	4	5	—	21
Convulsions	....	—	—	120	45	12	2	179
Other Septic Diseases	....	—	—	69	7	19	—	95
Beri-beri	....	—	—	36	6	4	—	46
Debility	....	—	—	27	7	11	—	45
Premature Birth	....	—	1	48	14	14	1	78
Old Age	....	—	3	152	55	29	1	240

Details are appended of the sources of certification of the principal causes of death.

TABLE XIII.

Cause of death	Number certified by			
	Hospitals	Private Practitioners	Deputy Registrar of Deaths	Coroner
Pulmonary Tuberculosis	213	103	57	...
Pneumonia	59	65	75	2
Bronchitis	4	21	110	1
Other Respiratory Diseases	50	67	14	6
Circulatory System	99	113	62	4
Enteric Fever	83	21	1	2
Enteritis	39	21	14	...
Dysentery	14	15	7	1
Diarrhoea	10	33	54	...
Other Diseases of Digestive System....	40	39	15	1
Urinary System	31	76	67	3
Malaria	20	8	...	...
Unspecified Fever	4	80	292	1
Syphilis	19	1	1	...
Convulsions	17	38	124	...
Other Septic Diseases	54	19	19	3
Beri-beri	17	16	13	...
Debility	9	15	21	...
Premature Birth	37	8	33	...
Old Age	19	37	184	...

6. SEASONAL MORTALITY.

The deaths and death rate for each month are here recorded.

TABLE XIV.

Month	Deaths	Death rate per thousand	Month	Deaths	Death rate per thousand
January	274	18.09	July	249	16.44
February	255	18.00	August	216	14.26
March	323	21.32	September	229	15.62
April	320	21.83	October	241	15.91
May	309	20.40	November	235	16.03
June	286	19.51	December	240	15.84

7. INFECTIOUS DISEASES.

Table XV shows the incidence among the various races of the principal infectious diseases which occurred during the year.

TABLE XV.

Race	Sex	Chicken-pox	Enteric Fever	Tuberculosis	Influenza	Puerperal Fever	Diphtheria	Measles	Mumps	Cerebro-Spinal Meningitis	Whooping Cough	Typhus	Erysipelas	Scarlet Fever	Leprosy	Total
European	M.	1	1	...	...	...	3	...	...	...	...	...	...	...	...	5
	F.	...	...	...	...	...	2	...	...	...	...	...	...	...	...	2
Eurasian	M.	2	2	2	...	...	...	...	...	...	...	...	...	...	...	6
	F.	...	1	3	...	...	1	...	...	...	...	...	...	1	...	6
Chinese	M.	19	173	249	4	...	37	2	...	2	...	...	2	1	1	490
	F.	4	86	85	4	5	21	1	...	1	1	...	1	2	...	211
Malay	M.	4	5	16	...	...	...	2	1	...	...	1	...	...	1	30
	F.	...	8	7	...	1	1	...	...	...	...	...	...	...	...	17
Indian	M.	107	33	38	...	...	6	3	28	...	...	3	...	...	...	218
	F.	18	9	9	...	2	1	...	3	...	...	...	...	...	...	42
Others	M.	1	3	1	...	...	...	...	...	...	...	...	...	...	...	5
	F.	1	...	1	...	...	...	...	...	...	...	...	...	...	...	2
Total	M.	134	217	306	4	...	46	7	29	2	...	4	2	1	2	754
	F.	23	104	105	4	8	26	1	3	1	1	...	1	3	...	280
Grand Total		157	321	411	8	8	72	8	32	3	1	4	3	4	2	1034

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

Table XVI shows the main figures for the last 32 years relating to births, deaths and infant mortality.

TABLE XVI.

Year	Total number of		Birth rate	Crude death rate	Infant mortality
	Births	Deaths (crude)			
1909	1,656	3,923	16.15	38.25	337 (a)
1910	1,905	3,912	18.39	37.76	290
*1911	2,133	4,045	21.02	39.88	287 (b)
1912	2,421	3,829	23.69	37.47	261
1913	2,464	3,794	23.95	36.86	284
1914	2,545	3,774	24.55	36.40	260
1915	2,808	3,390	26.89	32.46	239 (c)
1916	2,708	3,341	25.74	31.76	255
1917	3,099	4,071	29.25	38.42	269
1918	2,940	4,909	27.55	45.99	229
1919	3,203	4,466	28.86	41.54	244
1920	3,321	4,090	30.67	37.75	205
*1921	3,768	3,775	30.56	30.61	167 (d)
1922	3,738	3,768	29.71	29.94	166
1923	4,028	3,801	31.39	29.62	155 (e)
1924	4,257	3,811	32.54	29.13	151
1925	4,318	3,858	32.38	28.93	147
1926	4,434	4,396	32.60	32.32	159
1927	5,151	4,860	37.15	35.05	158
1928	5,332	4,670	37.72	33.04	155
1929	5,410	4,126	37.54	28.63	151
1930	5,630	3,939	38.32	26.81	144
*1931	5,315	3,710	35.44	24.74	130
1932	5,129	3,569	33.54	23.34	134
1933	5,052	3,592	32.38	23.02	146
1934	4,977	3,935	31.28	24.73	156
1935	5,452	3,709	33.61	22.86	148
1936	5,975	3,659	36.12	22.12	126 (f)
1937	5,939	3,697	35.21	21.92	129
1938	6,341	3,535	36.87	20.55	106 (g)
1939	6,925	3,718	39.49	21.20	95 (h)
1940	6,130	3,642	34.28	20.37	102

*Census Year

Note:—

- (a) 1st January 1909—one Health Sister.
- (b) 1st January 1911—two Health Sisters.
- (c) September 1915—Maternity Hospital opened.
- (d) 1st December 1921—two Health Sisters and seven part time midwives.
- (e) 1st May 1923—two Health Sisters and eight part-time midwives.
- (f) 1st August 1936—Lady Assistant Medical Officer and two Health Nurses appointed, and two Maternity and Child Welfare Centres started.
- (g) 1st May 1938—Lady Assistant Medical Officer's services ceased.
- (h) 1st January 1939—3 Health Sisters, 4 Health Nurses, 9 full-time midwives and 4 part-time midwives.

8. REGISTRATION OF BIRTHS AND DEATHS.

Notification of births within the Municipal area has to be made at the Municipal Offices except for those occurring at the Maternity Hospital where registration can be done. Deaths may be notified at any Police Station, the General Hospital or the Municipal Offices. Deaths must be notified within 24 hours while 14 days are allowed for the notification of births.

9. MATERNITY & CHILD WELFARE.

District Work.

This was the first complete year in which the whole of the town was included in the Maternity and Child Welfare Scheme. There were three districts, each in charge of a Health Sister who had a permanent staff of one Health Nurse and three visiting midwives. The bulk of this work is home visiting mostly for educational purposes but at this stage some minor ailments must be given attention. One has to be careful that the treatment side of the work does not absorb the preventive and educational side as has so often happened in so called public health schemes.

In addition to the permanent staff employed full time, each district has one recently qualified midwife on a part-time basis. The aim is to change the latter every six months so that the majority of the private midwives get some insight into the work of the Maternity and Child Welfare Scheme with which their future private work must be closely associated.

In this district work, 138,879 visits were made by the staff during the year. Some of the seed thus sown falls, no doubt, on stony ground but that much of it bears good fruit can be gauged by the increased appreciation of the parents.

Welfare Centres.

Two of the districts have Welfare Centres but my hopes last year that the third would soon have the benefit of a centre, will have to be further postponed in the present conditions. However the work has increased at both existing centres. The shelter at the Coolie Lines has brought together some 40 children who with the excellent help of the Y. W. C. A. are learning the joys of cleanliness and controlled amusement.

The attendances at the Welfare Centres were as follows :—

	First Attendances	Re-attendances
Kimberley Street Centre	1,474	2,492
Coolie Lines Road Centre	1,139	4,070

Midwives.

Each Health Sister supervises the midwives in her respective district. By this means most of them have their equipment inspected every month. Although some, whose aims seem to be the collection of fees, rather than efficient midwifery, give a bit of bother, the work on the whole is improving.

The numbur of midwives registered under the Midwives Ordinance (Chapter 67) were:-

Class	1940	1939
A	114	107
B	359	335
C	9	9

Infant Mortality.

111 babies died under the age of 7 days and 21 between the ages of 7 and 14 days. Of the 628 infants who died under the age of 1 year, 178 were less than one month old and 164 between one month and three months old. The infant mortality rate was 102 as compared with 95 in 1939.

		3 months and under	4 months to 12 months
Deputy Registrar of Deaths	....	146	127
General Hospital and Maternity Hospital	....	128	65
General Practitioners	....	65	93
Coroner	....	3	1
Total	....	<u>342</u>	<u>286</u>

Racial and age group distribution of deaths.

		3 months and under	4 months to 12 months
European	{ Males	1	....
	{ Females	....	....
Eurasian	{ Males	....	....
	{ Females	3	....
Chinese	{ Males	153	112
	{ Females	99	108
Malay	{ Males	25	16
	{ Females	10	14
Indian	{ Males	27	20
	{ Females	20	16
Others	{ Males	1	....
	{ Females	3	....
Total	{ Males	<u>207</u>	<u>148</u>
	{ Females	<u>135</u>	<u>138</u>
Grand Total		<u>342</u>	<u>286</u>

10. VACCINATION.

Vaccinations in the Municipal area were mostly the work of two Sanitary Sub-Inspectors. The success of having a vaccination session at the Coolie Lines Clinic encouraged us to start a similar period at the Kimberley Street Centre and this too has been highly successful. When the staff was depleted owing to military training, the Health Sisters gave a helping hand in the vaccination, so relieving the work of the Sanitary Inspectors.

6,130 births were reported during the year, a decrease of 795 from 1939.

Our staff did 5,166 vaccinations of which 5,121 were primary and 45 secondary. In addition, Government vaccinators during the year performed 5,623 secondary vaccinations, mostly in schools, while 390 primary vaccinations were done by private practitioners. No serious results were reported.

11. ANTI-MOSQUITO WORKS.

During the year we had a small malarial scare. Several cases of malaria were found in the Batu Gantong area. Fortunately more intensive work revealed several breeding places which when dealt with resulted in no further cases.

The cause of the malaria in an area which had been free for some years was, I believe, the prolonged spell of dry weather. This so burned up the undergrowth on the hillside and especially along the ravines that when a shower did come numerous seepages were exposed and of course the mosquitoes hatched out much quicker than the vegetation could grow. Another factor which helped the mosquito was a fire in the Batu Gantong area which spread up one of the ravines and so exposed more breeding places. A third condition which helped the mosquito further afield was the lack of undergrowth near the sources of the streams higher up the hill in areas beyond the usual oiling limits but known as breeding sites. These had to be oiled for sometime until the vegetation had a chance to grow.

Deaths from Malaria.

The deaths notified as due to Malaria were 28, i. e. 2 more than in 1939. All notifications of deaths from Malaria are investigated with the object of tracing the possible source of infection. This year as formerly a large proportion of the deaths notified could be definitely traced to infection outside the Municipal area. The following are the findings:—

Unknown	....	7
Province Wellesley	....	4
Kedah	....	2
Perlis	....	1
Thailand	....	1
Singapore	....	1
Perak	....	4
Penang (Rural)	....	5
Penang (Municipality)	....	3

The total oil consumption for the year was 62,575 gallons of Anti-Malarial Mixture, the cost being \$12,716.13, a decrease of 15,825 gallons and \$1,096.37 respectively from 1939.

12. TUBERCULOSIS.

The number of deaths notified as due to Tuberculosis was 411—373 pulmonary and 38 other forms. Last year the number was 382. This increase in notification does not necessarily mean an increase in Tuberculosis as there are large numbers never seen by doctors.

I have mentioned in previous reports the climatic and housing conditions which favour this disease. No doubt many sufferers are forced economically to live in poor surroundings but much could be done if there were less fear of sunshine and fresh air and a little more interest taken in food supply and other golden rules of health.

Much is said and written about Tuberculosis Dispensaries and Sanatoria and the advocates of these will always command a following. If it is isolation of advanced cases which is desired, why not use the existing Leper Settlements? To those who can see, an advanced Tuberculous lung is just as sorry a sight as an advanced leper and the two diseases are not so very different. If it is treatment that is required, the hospital organisation exists and excellent results are already being obtained in suitable cases. If you must have something specifically for the Tuberculous why limit your vision to the sanatorium which is nothing more than a combined isolation and general hospital? If large amounts of capital are to be spent why not subsidise the remaining years of Tuberculosis cases and preserve the family and communal life in an ideal village run by Tuberculosis patients and their families. I have seldom, if ever, seen visitors to a Leper Settlement or a Tuberculosis Sanatorium leave with the feeling that they had been cheered onwards in the battle of life. But it is now some 25 years since I visited a Tuberculosis colony and saw the patients running their village and competing in the open market by means of a small subsidy. It was a cheerful sight and it proved that Tuberculosis did not thrive in healthy surroundings even if the family life is preserved, for there were the healthy and therefore happy children of Tuberculous parents playing in the streets and gardens of a simple country village.

Surely it proves too that money spent in fighting Tuberculosis is best spent in creating conditions of life which make it impossible for the seeds of Tuberculosis to flourish. Let us sow for health instead of money in our housing and living conditions and the harvest will be health and happiness.

13. TYPHOID.

319 notifications of Typhoid were made during the year—2 deaths were recorded as due to Typhoid in cases which had not been notified.

Concurrent with an increase in the number of Typhoid cases and deaths, an attempt by hawkers to introduce “ice-cream” was discovered in the first quarter of the year. When this was stopped, the incidence steadily decreased. The recorded deaths totalled 107 but of these 78 took place in the first six months and only 29 during the last half of the year.

Although there was no proof that the rise in the number of cases early in the year was due to the so-called ice-cream sold by the street hawker, it is significant

that when a stop was put to the sale of all ice-cream by street hawkers except in cartons made in licensed premises, the incidence decreased.

A further fact worth recording in connection with this so-called ice-cream made in the small portable tins by the hawkers themselves is the multitude of sins which the freezing process succeeds in hiding from the purchaser. If this "ice-cream" when melted could only be shown in all its dirt, I feel sure the general public would fight shy of ice-potongs in future. It is a very slight exaggeration to say that the melted result looked like *dirty* dish water; certainly I have seen cleaner dish water often.

Besides the food hawkers inoculated before being given a licence, 317 contacts were inoculated during the year.

When in December only 11 cases were reported and one death recorded, it was felt that the work and vigilance of the year had not been entirely wasted.

14. CHICKEN-POX.

157 cases were reported; 1 was an European, 1 was an American, 1 was an Arab, 2 were Eurasians, 23 were Chinese, 4 were Malays and 125 were Indians.

Of the total cases reported, 139 were admitted to the Quarantine Camp.

31 cases were under 10 years of age and 126 were over that age, their ages varying from 12 days to 65 years.

As usual the Indians showed a distinct susceptibility to this disease, the number affected being quite out of proportion to the size of the community.

15. PUERPERAL FEVER.

8 cases were notified. 5 were Chinese, 1 was a Malay and 2 were Indians: 4 died and 4 recovered.

There were 15 cases last year.

16. INFLUENZA.

Under the Quarantine and Prevention of Disease Ordinance (Chapter 186) this is classified as a dangerous infectious disease.

There were 8 deaths but none of them was notified. All were Chinese.

There was one case in each of the months of March and December, 2 cases in May, and 4 cases in April.

5 cases were certified by general practitioners and 3 cases by Hospital.

17. MEASLES.

This infectious disease is not notifiable under the Quarantine and Prevention of Disease Ordinance (Chapter 186).

7 cases were notified but death certificate was received for 1 more, who was never notified: 3 Chinese, 2 Malays and 3 Indians. 6 cases were treated in the Quarantine Camp. 2 were treated at home; one died.

18. MUMPS.

32 cases were reported; 31 were Indians and one was a Malay. They were treated at the Quarantine Camp and recovered.

19. CEREBRO-SPINAL MENINGITIS.

3 cases were reported: all were Chinese. Two cases occurred in April and one in September. They were treated in Hospital: 2 died.

20. SCARLET FEVER.

4 cases were reported: one was an Eurasian and 3 were Chinese. 2 were treated in Hospital, 1 in the Quarantine Camp and one at home. All recovered

21. WHOOPING COUGH.

There was one death from Whooping Cough in March. He was a Chinese, aged 4 months and was treated in Hospital.

22. TYPHUS.

4 cases were notified, 1 case in April and 3 cases in June. 3 were Indians and 1 was a Malay; they were treated in Hospital, 1 died.

23. LEPROSY.

2 cases were reported. One was a Malay and the other a Chinese.

24. ERYSIPELAS.

3 cases were reported: all were Chinese. They were treated in Hospital and recovered.

25. DIPHTHERIA.

72 cases were notified during the year. Of the total cases 5 were Europeans, 1 Eurasian, 58 Chinese, 1 Malay, 7 Indians.

There were 22 deaths, 20 of which were hospital cases. Of the fatal cases only 4 were notified before death; 9 cases were notified on the day of death; 4 cases were notified one day after death; 3 cases were notified two days after death and 2 cases were notified 3 days after death. Delay in seeking medical attention was still evident. This is very regrettable as the importance of early treatment should be common knowledge nowadays.

I show here the monthly incidence (Table XVII).

TABLE XVII.

DIPHTHERIA 1940.

Month		Cases reported	Deaths
January	....	3	1
February	....	12	6
March	....	7	2
April	....	5	—
May	....	12	6
June	....	6	1
July	....	4	1
August	....	4	—
September	....	4	1
October	....	3	—
November	....	7	3
December	....	5	1
Total	....	72	22

TABLE XVIII.

DIPHTHERIA IN PENANG MUNICIPALITY.

Year	Estimated population	Cases reported	Deaths
1911	101,182	2	1
1912	102,167	3	3
1913	102,913	3	2
1914	103,664	1	1
1915	104,420	2	2
1916	105,183	—	—
1917	105,950	4	4
1918	106,723	2	2
1919	107,502	4	3
1920	108,286	1	1
1921	123,187	5	4
1922	125,834	4	2
1923	128,300	4	4
1924	130,800	4	2
1925	133,373	8	6
1926	136,000	6	5
1927	138,635	8	5
1928	141,348	15	5
1929	144,114	11	5
1930	146,935	20	10
1931	149,964	23	9
1932	152,908	29	13
1933	156,014	46	15
1934	159,085	28	13
1935	162,217	39	18
1936	165,411	35	14
1937	168,667	29	10
1938	171,988	23	18
1939	175,374	40	10
1940	178,826	72	22

26. QUARANTINE CAMP, PERAK ROAD.

232 patients and 36 contacts were admitted.

Details of disease and race are shown in Tables XIX and XX.

TABLE XIX.

Disease	Remaining on 31-12-39	Admitted	Total	Discharged	Transferred	Absconded	Died	Remaining on 31-12-40
Chicken-pox	4	146	150	146	—	—	—	4
Measles	—	6	6	6	—	—	—	—
Mumps	1	33	34	34	—	—	—	—
Diphtheria	—	10	10	10	—	—	—	—
Syphilis	—	2	2	1	1	—	—	—
Scabies	—	1	1	1	—	—	—	—
Scarlet Fever	—	1	1	1	—	—	—	—
Herpis	—	1	1	1	—	—	—	—
Contacts	1	35	36	36	—	—	—	—
Observation	—	27	27	25	2	—	—	—
Total	6	262	268	261	3	—	—	4

TABLE XX.

Race	Remaining on 31-12-39	Admitted	Total	Discharged	Transferred	Absconded	Died	Remaining on 31-12-40
European	—	3	3	3	—	—	—	—
Chinese	—	45	45	45	—	—	—	—
Malay	—	12	12	11	1	—	—	—
Indian	6	202	208	202	2	—	—	4
Total	6	262	268	261	3	—	—	4

NOTE.

46 cases were admitted on personal application.

27. CONSERVANCY.

The amount of refuse collected during the year was 79,559 cubic yards which is 12,562 cubic yards below the amount collected in 1939 and 39,571 cubic yards below the highest amount collected in any one year which was 1930.

At the end of the year the nightsoil service was being carried out to 8,511 latrines, a decrease of 314 latrines due to the development of the sewage system.

The comparative figures of Conservancy Revenue and Expenditure for 1939 and 1940 are :—

	1939	1940	Increase	Decrease
Revenue	\$176,197.76	\$168,521.94	—	\$7,675.82
Expenditure	\$272,325.90	\$274,151.89	\$1,825.99	—

Figures showing revenue and receipts for the past two years are given for comparison with expenditure table above :—

		1939	1940
Revenue from Nightsoil collection	....	\$143,123.18	\$135,054.10
Revenue from Trade Refuse collection	....	32,693.58	33,099.84
Fines remitted from Police Court	....	381.00	368.00
		—————	—————
Total	....	\$176,197.76	\$168,521.94
		—————	—————

As in previous years obstructions were largely dealt with by the Conservancy Department. 67 summonses were taken out and fines were imposed amounting to \$187.50.

SCHEDULE OF EXPENDITURE.

Scavenging				
Personal Emoluments	....	....	7,965.88	
Transport	....	....	940.72	
				8,906.60
Donations to Provident Fund	....	....	1,432.73	
Uniforms	....	....	172.59	
Telephones	....	....	50.50	
Water Supply	....	....	916.88	
Indian Immigration Assessment	....	....	724.16	
Miscellaneous	....	....	146.22	
				3,443.08
Wages for Divisional Overseers, etc.		....	6,339.58	
Coolies sweeping drains and loading refuse	}	....	85,407.19	
Coolies sweeping roads and loading refuse				
Hire of electric vans Nos: 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 21 and 22		....	26,873.50	
Hire of motor vans Nos: 1, 2, 3, 5, 15, 16, 17, 18, 19, 20, 23 and 24		....	25,165.00	
Hire of Dennis Street Washers Nos. 1 & 2		....	2,065.00	
				145,850.27
Sundry Stores		....	5,708.90	
Scavenging Tubs and Refuse Bins		....	397.75	
Miscellaneous		....	1,302.21	
			7,408.86	
Less Credits Received	...	...	869.09	
				6,539.77
Total		....		164,739.72

Nightsoil Collection					
Personal Emoluments	....	....	9,692.90		
Transport Allowances	....	....	627.56		
				10,320.46	
Donations to Provident Fund	....	....	1,156.46		
Uniforms	....	....	231.67		
Telephones	....	....	50.50		
Water Supply	....	....	4,582.33		
Indian Immigration Assessment	....	....	129.16		
Minor Works	....	....	9.23		
				6,159.35	
Wages for Timekeeper	....	....	374.37		
Coolies loading, unloading and washing pails etc. on motor vans	....	....	37,966.91		
Value of pails, lids and rims used		....	9,479.58		
Repairs to pails	....	....	1,410.10		
Miscellaneous	....	....	508.87		
Sundry Stores	....	....	1,860.91		
Hire of Cesspool Emptyers Nos. 1 and 2		....	3,733.00		
Hire of S. D. Freighters Nos. 1, 2, 7, 8, 11, 12, 14 and 16	....	....	23,248.50		
Hire of Bedford Vans Nos. 3, 9, 10, 15, 19, 23 and 24	....	....	18,667.25		
			97,249.49		
Less Credits Received	....	....	4,317.13		
				92,932.36	
Total	....				109,412.17

28. SCAVENGING.

Daily scavenging was carried on throughout the year over the whole of the Municipal Area. There was cessation of work only on 25th January and 30th October for Thaipusam and Deepavali festivals.

With regard to the refuse collection the following vans were used on scavenging service :-

12 Ransome Electric Lorries

5 Morris (one ton) Lorries

6 Bedford Lorries.

This allowed one electric and one motor van to each of the 9 scavenging divisions, the remainder being held in reserve for use when vans were under repair or for any other emergency.

The area wherein householders are required to provide their own bins was extended during the year to include Health Divisions 10, 11 and 12. A further 626 premises were included.

In this area metal bins fitted with self-closing lids were provided for reception of drain refuse and street sweepings. It was still found necessary to use a number of half-tar barrels as the supply of metal bins was inadequate. The number of half-tar barrels used during the year was 783.

The amount of refuse collected shows a considerable decrease from 1939.

Below is given a table showing the amount of refuse removed annually since 1927 :-

1927	....	107,716	cubic yards of refuse removed.
1928	....	113,748	„ „ „
1929	....	119,002	„ „ „
1930	....	119,136	„ „ „
1931	....	118,807	„ „ „
1932	....	113,746	„ „ „
1933	....	106,337	„ „ „
1934	....	106,927	„ „ „
1935	....	106,578	„ „ „
1936	....	100,735	„ „ „
1937	....	99,280	„ „ „
1938	....	99,654	„ „ „
1939	....	92,121	„ „ „
1940	....	79,559	„ „ „

The following table gives a more detailed record of the amount of refuse dealt with during 1940 :—

1940	Electric Vans		One Ton Motor Vans	
	Quantity in loads	Quantity in Cubic yards	Quantity in loads	Quantity in Cubic yards
January	1235	5804	1657	1988
February	1158	5443	1562	1875
March	1102	5179	1594	1912
April	1027	4827	1502	1803
May	1055	4959	1509	1811
June	944	4437	2007	2408
July	911	4281	1881	2257
August	902	4240	1823	2188
September	843	3962	1694	2033
October	841	3953	1636	1963
November	815	3830	1631	1957
December	928	4362	1739	2087
Total	11761	55277	20235	24282

The comparison of the amount of refuse removed during recent years is shown in graph (Appendix No. 1).

The following table shows the work carried out during the year by the two Dennis Street Washers which worked nightly from midnight to daybreak except during the wet season :—

1940	Dennis No. 1		Dennis No. 2	
	Washing Gallons	Days Worked	Washing Gallons	Days Worked
January	569,800	22	418,000	23
February	630,300	28	475,200	28
March	544,500	29	566,500	29
April	407,000	22	401,500	22
May	335,500	19	168,300	10
June ....	....	....	....	....
July ....	....	....	....	....
August ....	....	....	....	....
September ....	....	....	....	....
October ....	....	....	....	....
November ....	....	....	....	....
December	389,400	24	411,400	24
Total	2,876,500	144	2,440,900	136

29. NIGHTSOIL COLLECTION.

The total of nightsoil pails collected during the year amounted to 1,775,282 which is a decrease of 74,893 from that of the previous year.

The following extract of figures show the comparison of work with 1939:—

	1939	1940	Increase	Decrease
No. of Latrines dealt with				
December 31st ...	8,825	8,511	...	314
No. of pails removed ...	1,850,175	1,775,282	...	74,893

The number of pails of nightsoil collected in previous years is shown in graph (Appendix No. 2).

The average number of latrines to which the service was applied was 8,619, being a decrease of 425: these latrines were situated :—

In Compulsory Area	...	8,222
In Voluntary Area	...	397
Total	...	<u>8,619</u>

The actual number of latrines to which the service was applied on December 31st, 1940 was 8,511, being classified :—

Public latrines pails removed twice daily	...	106
Private „ „ „ twice daily	...	25
Public „ „ „ once daily	...	10
Private „ „ „ once daily	...	737
Private „ „ „ on alternate days	...	7633

The charge for daily collection was \$2.50 per month and for alternate day collection \$1.25 per month.

Where back lanes are constructed nightsoil pails are removed from the latrines in the back lanes, but in older parts of the town where back lanes do not exist, it is necessary to carry the latrine pails through the houses.

	Dec. 1939	Dec. 1940	Increase	Decrease
Latrines cleared from back lanes or yards	7,375	7,062	....	313
Latrines cleared through houses	1,450	1,449	....	1

Wherever the nightsoil service is used the latrine pail is provided without additional charges to that quoted for removal. 1,497 new pails were issued while defective pails were repaired at the Workshop as follows:—

General repairs	...	478
New rims fitted	...	306
Secondhand rims fitted	...	3,664

The transport consists of:—

5 Bedford Vans, capacity 40 pails each	....	200
8 S. D. Freighters, capacity 40 „	....	320
Total	....	<u>520</u>

At the end of the year 11 vans were on regular nightly service and one van was working on alternate nights.

30. MARKETS.

On 1st January, 1940 the new Jelutong Market was opened to the public for the sale of fresh goods. All stalls in the market were leased out.

Minor repairs and cleaning were carried out to the various markets as found necessary.

Letting of stalls at 31st December, 1940 was as follows:—

Market	No. of Stalls	No. Occupied	No. Vacant
Chowrasta	185	177	8
Prangin	54	49	5
Campbell Street	93	87	6
Central	42	27	15
Dato Kramat	45	27	18
Pulau Tikus	16	12	4
Jelutong	23	14	9
Total	458	393	65

The floors and drains in and attached to the public markets are daily washed down with water and sprayed with hypochlorite disinfectant and kept as clean as possible.

Hawkers in the vicinity of Chowrasta Market were fairly numerous at the beginning of the year. These were dealt with by summonses by the Hawker Inspector and there is an appreciable decrease in the number

31. STREET STALLS.

During the year the number of licensed sites was reduced from 262 to 84. This was due to the opening of the "Popular Stalls" in Campbell Street.

Unlicensed stalls were fairly numerous and these were dealt with either by issue of warning notices or summonses if necessary. The number of summonses issued was 124.

The following table gives all licensed streets, the number of sites used and vacant on 31st December, 1940.

Street	Vacant Pitches	Licensed Pitches	Total
Acheen Street Ghaut ...	—	4	4
Armenian Street Ghaut ...	—	7	7
Armenian Street ...	—	11	11
Cecil Street Ghaut ...	—	2	2
Cheapside ...	4	14	18
Datoh Koyah Road ...	—	3	3
Kampong Malabar ...	1	12	13
Kuala Kangsar Road ...	—	6	6
On vacant land next to Penang Bazaar (Penang Road) ...	—	5	5
Market Street Ghaut ...	—	2	2
Noordin Street Ghaut ...	—	1	1
Presgrave Street Ghaut ...	—	2	2
Queen Street ...	—	6	6
Rope Walk ...	—	1	1
Tek Soon Street ...	—	3	3
Total	5	79	84

32. HAWKERS.

An innovation this year was the licensing of street hawkers. This measure was introduced at the end of last year in order that some measure of control could be exercised over the people who supply a very large amount of the cooked and uncooked foodstuffs to the Asiatic population.

The measure was at first resisted by the hawkers and a series of strikes and demonstrations took place. In February, however, there was a trickle of applicants which soon increased to a flood swamping the Municipal Office in their eagerness to obtain licences. Eventually the astounding number of 6,454 licences were issued. Of this number 24 were duplicate licences.

The hawkers as regards race etc. were divided as follows :-

Chinese	4719
Indians	1585
Malays	125
Burmese	1
	<hr/>
Total	... 6430
	<hr/>
Food & Drink	5662
Sundry Goods, Piece Goods etc.	768
	<hr/>
Total	.... 6430
	<hr/>

About 760 inoculations were performed on sellers of iced drinks and iced foods.

Two additional overseers were appointed to assist in carrying out the necessary work and supervision.

It is too early yet to say that improvements have resulted from the measure, but attention is being paid to the sanitary condition of the food, utensils and the hawkers' person, and of course the long-standing question of obstructions.

33. MEDICAL ATTENDANCES.

Medical advice or treatment was given to Municipal employees 24,263 times.

The total for 1939 was 19,076 and for 1938 was 17,177.

The number seen per month varied from 1,541 in February to 2,530 in May.

The number seen in the different departments were:—Engineer 10,605, Health 7,544, Electrical 4,293, Fire Brigade 100, Vehicles 29, Water 1,463, Secretariat 133 and Veterinary 96.

34. SALE OF FOOD AND DRUGS ACT, CHAPTER 191.

Most of the work under this Act is concerned with the control of supply of fresh milk. Each milk seller was examined as to his physical fitness before being licensed and in any case in which there were signs of disease which might be transmitted through milk, licensing was deferred or refused. At this examination, personal hygiene and the cleanliness of all milk containers and measures were scrutinized.

Throughout the year one whole-time milk inspector supervised the sale of milk. 17 suspected samples of milk were sent to the Government Analyst and of these 16 were found to be adulterated. 12 sellers of adulterated milk were prosecuted and 11 convicted. 13 others were prosecuted and convictions obtained for offences against the by-laws and regulations.

The total amount in fines was \$529-00.

35. DESTRUCTION OF RATS.

In this work one assistant supervisor and six coolies were employed, their methods being direct slaughter after smoking out the runs, and to a less extent poison and traps.

By direct slaughter 5,440 rats were accounted for during the year.

36. WATER SUPPLY.

There was throughout the year an ample supply of good drinking water, the average daily consumption being 40 gallons per head, including water used for trade purposes and shipping.

37. FINANCIAL.

The total expenditure for the year was \$181,154-69. This includes the Quarantine Camp, the Maternity and Child Welfare Work, Vaccination, Anti-Mosquito Work, all pay and allowances and the Commissioners' donations to the Provident Fund of our staff.

The revenue was \$18,891-82, leaving \$162,262-87 as the cost of the department to the rate-payers. This represents a rate of 2.867 per cent or 6.881 pence in the pound sterling.

The estimated population being 178,826, the total cost of the department for the year per head of population is about 91 cents or about 2 shillings and 1 penny sterling.

38. STAFF.

Dr. W. Ainslie having been appointed Deputy Health Officer, assumed duties on 23rd October.

Miss A. Wilson was appointed Health Sister on 6th May, vice Mrs. Hilda MacLeod resigned.

Mr. W. G. F. Colebeck, Town Superintendent, left for England on 8 months furlough commencing from 13th December.

The undermentioned appointments were made :-

M. E. Augustine, Dresser, 1st January.

Hassan bin Abdullah, Assistant Supervisor, 1st October.

Pow Kooi Kee, Full-time Midwife, 1st June.

Ahmad bin Omar, Peon, 16th September.

Ishak bin Ismail, Assistant Supervisor, 11th September.

Abdul Rahim bin Che Teh, Process Server, 8th October.

E. M. Sheriff, Conservancy Overseer, 1st October.

K. R. M. Andhi, Conservancy Overseer, 11th December.

The undermentioned resigned their appointments :-

M. R. Balakrishnan, Dresser, 30th December.

G. Laing, Assistant Supervisor, 11th September.

Lim Siew Eng, Full-time Midwife, 31st December.

S. M. Pragasam, Conservancy Overseer, 7th August.

K. Ratnam, Conservancy Overseer, 12th December.

Rejab bin Othman, Sanitary Sub-Inspector, was dismissed from service on 19th November.

I wish to record my appreciation of the excellent work of the staff of this department.

I have the honour to be,

Gentlemen,

Your obedient servant,

W. H. BRODIE,

Municipal Health Officer.

To

Penang, 15th September, 1941.

The Municipal Health Officer,
P E N A N G .

Sir,

I have the honour to submit the report of the work done by the staff during the year ending 31st December, 1940.

GENERAL SANITATION.

The staff made 13,034 inspections and 45,139 re-inspections, in which 1,236 premises were found defective and 1,426 dirty.

The following table shows how the notices were dealt with during the year.

NOTICES.		Outstanding on 31.12.39	Unserved on 31.12.39	New notices issued 1940	New notices served 1940	Unserved on 31.12.40	Complied with in 1940	Work proceeding on 31.12.40	Cancelled in 1940	Brought forward to 1941
Nuisance	...	33	—	43	43	—	15	—	—	61
Lime Washing	...	9	—	79	79	—	74	2	1	13
Latrine	...	24	—	108	108	—	100	1	17	15
Drain	..	14	5	91	96	—	105	—	1	4
Filthy Premises	...	8	—	243	234	9	225	2	—	17
Common Lodging House	...	10	—	532	532	—	537	—	—	5
Trade	...	—	—	908	908	—	907	—	—	1
Bakery, Cook Shop and Eating House	...	74	—	760	760	—	834	—	—	—
By-Law	...	13	—	167	167	—	173	—	1	6
Well	...	8	—	36	36	—	35	—	—	9
Partition	...	51	1	183	182	2	190	3	3	40
Open Space	...	17	—	78	78	—	79	2	1	15
Mosquito Order	...	23	—	181	181	—	169	—	1	34
Rat	...	—	—	—	—	—	—	—	—	—
Disinfection	...	—	—	427	427	—	423	—	3	1
Sanitary Installation	...	—	—	136	136	—	136	—	—	—
Insanitary Premises	...	9	—	1	1	—	1	—	5	4
Boarding House	...	—	—	42	42	—	42	—	—	—
Total	...	293	6	3995	4010	11	4045	10	33	225

15 nuisance notices were complied with during the year. These dealt with 33 houses of which 3 were structurally altered to provide light and ventilation and 30 were either closed or demolished.

Complaints were received daily, many of them anonymous and all were investigated and dealt with.

WELLS.

36 notices under Section 254 of Chapter 133 (Municipal) were served and 8 brought forward from 1939. 35 notices were complied with resulting in the closing of a like number of wells, and 9 were carried forward to 1941.

CEMETERIES.

The Sub-Inspector in charge made 230 visits to the cemeteries.

EXHUMATIONS.

21 applications were received during the year. 14 bodies were exhumed under special licence and the remaining number was carried forward to 1941.

PASSENGERS.

340 passengers arrived from infected ports and were kept under observation by the staff as against 130 last year.

PLANS.

388 plans submitted for approval by the Commissioners were examined in this office as against 375 last year.

PROSECUTIONS.

282 summonses were issued		254 convictions	
during the year			
		5 withdrawn	
		11 discharged	
78 brought forward		90 carried forward	
<hr/>		<hr/>	
Total	360	Total	360
<hr/>		<hr/>	

3 Abatement of Nuisance Orders were obtained.

The fines imposed by the Magistrate amounted to \$3,495-00 as against \$1,361-50 the previous year.

DISINFECTIONS.

815 houses were disinfected during the year for the following causes :—

Tuberculosis	...	333
Enteric Fever	...	230
Chicken-pox	...	73
Diarrhoea	...	52
Diphtheria	...	44
Enteritis	...	40
Dysentery	...	28
Tubercular Meningitis	...	5
Cerebro-Spinal Meningitis	...	4
Scarlet Fever	...	2
Typhus	...	1
Influenza	...	1
Leprosy	...	1
Tubercular Laryngitis	...	1
		<hr/>
Total	...	815
		<hr/>

The houses disinfected being distributed as follows :—

TUBERCULOSIS :— Hutton Lane (13); Kedah Road and Muntri Street (12 each); Chulia Street and Dato Kramat Road (10 each); Beach Street, Burmah Road, Presgrave Street and Stewart Lane (9 each); Bridge Street, Gladstone Road, Noordin Street and Penang Road (8 each); Love Lane, Magazine Road and Perak Road (7 each); Brick Kiln Road, Jelutong Road & Macalister Road (6 each); Carnarvon Street, Cintra Street, Rope Walk, Tye Sin Street and York Road (5 each); Kimberley Street, Malacca Street and Prangin Road (4 each); Argyll Road, Campbell Street, Caunter Hall, Church Street, Jahudi Road, Leith Street, Malay Street, Market Lane and Patani Road (3 each); Acheen Street, Aier Itam Road, Aboo Sittee Lane, Amoy Lane, Cantonment Road, Carnarvon Lane, Cecil Street, Chulia Lane, Clarke Street, Dato Koyah Road, East Jelutong, Hongkong Street, Kampong Java Bahru, Katz Street, Kinta Lane, Klang Street, Kuala Kangsar Road, Kuantan Road, Lorong Slamet, MacNair Street, Market Street, North Beach, Pahang Road, Prangin Lane, Rangoon Road, Siam Road, Western Road and Tanjong Tokong Road (2 each); Acheen Street Ghaut, Ah Quee Street, Bagan Jermal Lane, Bangkok Lane, Batu Lanchang, Batu Lanchang Lane, Bishop Street, Cannon Street, Ceylon Lane, China Street, College Lane, Edgecumbe Road, Free School Road, Halfway Road, Hargreaves Road, Irving Road, Johore Road, Kampar Road, Kampong Kaka, Kek Chuan Road, King Street, Krian Road, Macalister Lane, MacCallum Street, Madras Lane, Maxwell Road, Muda Lane, New Lane, Ngah Aboo Lane, Pangkor Road, Penang Street, Penaga Road, Penang Hill, Prangin Road Ghaut, Presgrave Street Ghaut, Queen Rstreet, Seang Tek Road, Scotland Road, Service Road, Singora Lane,

Sri Bahari Road, Sungei Ujong Road, Swatow Lane, Toh Aka Lane, Tongkah Road, Tek Soon Street, Transfer Road, Victoria Street and Weld Quay (1 each).

ENTERIC FEVER :—Cintra Street (14); Bridge Street (11); Dato Kramat Road (9); Campbell Street and Kimberley Street (6 each); East Jelutong and Muntri Street (5 each); Caunter Hall, Jahudi Road, King Street, Magazine Road, Noordin Street, Penang Road, Presgrave Street and Rope Walk (4 each); Armenian Street, Ayer Itam Road, Beach Street, Bertam Lane, Brick Kiln Road, Cannon Street, Hutton¹ Lane, Kelawei Road, Kuala Kangsar Road, Macalister Road, Macalister Lane and Stewart Lane (3 each); Argyll Road, Bishop Street, Burmah Road, Carnarvon Lane, Carnarvon Street, Chulia Street, Coolie Lines Road, Dindings Road, Farquhar Street, Gladstone Road, Halfway Road, Jelutong Road, Leith Street, McNair Street, Madras Lane, Malay Street, Maxwell Road, Patani Road, Penang Street, Popus Lane, Queen Street, Rangoon Road, Sungei Ujong Road, Tek Soon Street, Tye Sin Street, Tye Kee Yoon Road, Western Road and West Jelutong (2 each); Acheen Street, Aboo Sittee Lane, Amoy Lane, Ariffin Court, Batu Lanchang, Batu Lanchang Road, Burmah Lane, Ceylon Lane, College Square, Cross Street, Dundas Court, Free School Road, Gaol Road, Gopeng Road, Green Hall, Hong Kong Street, Irving Road, Kajang Road, Kampong Java Bharu, Kampong Java Lama, Kampong Malabar, Katz Street, Kedah Road, Keng Kwee Street, Kinta Lane, Lorong Salamat, Love Lane, Malacca Street, Market Lane, Mount Erskine Road, Nirvana Terrace, Northam Road, Pangkor Road, Perak Lane, Perak Road, Prangin Road, Phee Choon Road, River Road, Rifle Range Road, Scotland Road, Scott Road, Seh Tan Court, Selangor Road, Siam Road, Sri Bahari Road, Tamil Street, Trang Road, Victoria Street, Weld Quay and York Road (1 each),

CHICKEN-POX :—King Street (8); Brick Kiln Road (6); Patani Road (4); Chulia Street, Gladstone Road, Halfway Road, Hutton Lane and Macalister Road (3 each); Beach Street, Dato Kramat Road, Kedah Road, Lorong Salamat, Perak Road and Kuantan Road (2 each); Ayer Itam Road, Amoy Lane, Anson Road, Batu Gantong, Bridge Street, Buckingham Street, China Street, Chowrasta Road, Chulia Lane, College Square, Dato Kramat Road, Gottlieb Road, Irrawady Road, Kampong Java Lama, Keng Kwee Street, Malacca Street, Malay Street, Maxwell Road, Muntri Street, Northam Road, Pahang Road, Penang Hill, Penang Road, Sungei Pinang Road, Tanjong Tokong Road, Tye Sin Street, Waterfall Road and Western Road (1 each).

DIARRHOEA :—Bridge Street (5); Beach Street, Campbell Street, Jelutong Road, Kimberley Street, Lorong Slamat, Perak Road, West Jelutong and Tye Sin Street (2 each); Armenian Street, Bakau Street, Brick Kiln Road, Burmah Road, Caunter Hall, Dato Kramat Road, East Jelutong, Green Lane, Hutton Lane, Hong Kong Street, Immigration Road, Kajang Road, Kedah Road, Kelantan Road, Lorong Saratus Tahon, MacNair Street, Magazine Road, Malay Street, Noordin Street, Patani Road, Penang Road, Prangin Road, Phuah Hin Leong Road, River Road, Rope Walk, Seang Tek Road, Seck Chuan Lane, Siam Road, Stewart Lane, Sungei Pinang Road and Victoria Street (1 each).

DIPHTHERIA :—Tye Sin Street (4); Burmah Road (3); Chulia Street, Dato Kramat Road, Farquhar Street, Hutton Lane, Magazine Road, Maxwell Road, Noordin Street, Perak Road and Northam Road (2 each); Beach Street, Carnarvon Lane, Cintra Street, Goal Road, Irving Road, Katz Street, Kedah Road, Kimberley Street, Krian Road, Love Lane, Logan Road, Lorong Salamat, MacNair Street, Market Lane, Toh Aka Lane, Service Road, Siam Road, Stewart Lane and Sungei Pinang Road (1 each).

ENTERITIS :—Bridge Street, Buckingham Street and Dato Kramat Road (3 each); Beach Street, Ceylon Lane, Kedah Road, Pahang Road, Perak Road and Tye Sin Street (2 each); Anson Road, Barrack Road, Brick Kiln Road, Carnarvon Lane, Cecil Street, Chow Thye Road, East Jelutong, Gladstone Road, Green Hall, Jelutong Road, Kampong Malabar, Kuala Kangsar Road, Magazine Road, Noordin Street, Patani Road, Pitt Street, Queen Street, Toh Aka Lane and Victoria Street (1 each).

DYSENTRY :—Noordin Street (4); West Jelutong (3); Argus Lane, Argyll Road, Bagan Jermal Road, Bridge Street, Buckingham Street, Burmah Road, Cannon Street, Carnarvon Street, Cecil Street Ghaut, Chulia Street, Church Street, Juru Lane, Katz Street, Kimberley Street, Patani Road, Penang Road, Perak Road, Popus Lane, Prangin Road, Transfer Road and Victoria Street (1 each).

TUBERCULAR MENINGITIS:—Beach Street, China Street, Herriot Street, King Street and Presgrave Street (1 each).

CEREBRO-SPINAL MENINGITIS :—Noordin Street (2); Burmah Road and Maxwell Road (1 each).

SCARLET FEVER :—Leith Street and Logan Road (1 each).

TYPHUS :—Penang Street (1).

INFLUENZA :—Sri Bahari Road (1).

LEPROSY :—East Jelutong (1).

TUBERCULAR LARYNGITIS :—China Street (1).

TRADES.

The fees collected during the year for trade licences amounted to \$8,154-40 as against \$8,323-90 the previous year, a decrease of \$169-50.

COMMON LODGING HOUSES.

586 common lodging houses were licensed during the year as against 581 in 1939, and the fees collected amounted to \$1,237-60 as against \$1,240-20, a decrease of 15 houses and \$2-60 in fees.

MILK.

160 milk-sellers were registered in 1940 as against 184 in 1939.

5,375 lactometer tests were made during the year, 17 samples being sent to the Government Analyst, 12 of which were returned as being below standard.

29 summonses were issued, 12 for selling adulterated milk and 17 for offences against the bye-laws and regulations.

64 were brought forward from 1939.

—
Total 93
—

25 convictions were obtained.

10 were carried forward to 1941.

58 summonses have been accumulated over a number of years against milksellers who cannot be traced.

Total 93

Fines amounting to \$526-00 were imposed as against \$283-00 in 1939, an increase of \$243-00.

VACCINATIONS.

Our vaccinators did 5,121 primary and 45 secondary vaccinations. 1,350 tubes of lymph were used at a cost of \$337-50.

1,436 primary vaccinations were performed at the Lum Hwa Ee Hospital by one of our vaccinators.

Private practitioners performed 390 primary vaccinations.

The Government vaccinators did 5,623 secondary vaccinations within Municipal limits.

RATS.

The gang of rat-catchers caught and destroyed 5,440 rats during the year by means of smoking, trapping and the use of poison.

ANTI-MOSQUITO WORK.

Four anti-mosquito gangs worked during the year, cutting down vegetation, digging, levelling and clearing ditches in "reserve roads" within Municipal limits. They also carried out works at the request and at the expense of owners. All streams were cleared when necessary and as in previous years, particular attention was paid to the stream at the Chetty Temple during the Thaipusam Festival.

The oiling gangs under supervisors regularly oiled all ditches, swamps and streams within Municipal limits and the Race Course, and Kelawei Road, Bagan Jermal, Mount Erskine, Western Road, Waterfall Road and Scotland Road including the foothills to Kampong Bharu, Batu Gantong and foothills, Caunter Hall, Perak Road, East and West Jelutong and Jelutong Village, Bukit Dunbar, Perak Lane, Burmah, Anson, Larut, Gottlieb, Sungei Pinang, River, Patani, Jelutong and Batu Lanchang Roads.

62,575 gallons of anti-malarial oil were used, the cost being \$12,716-13.

At the request of certain owners work was done on private property and the income from this source was \$2,071-70.

STAFF.

Lee Yin Koon, Sanitary Sub-Inspector, who went to Singapore to qualify for the R. S. I. certificate. was successful in his examination held in November.

Rejab bin Othman, Sanitary Sub-Inspector, was dismissed from service on 19th November.

Ishak bin Ismail, Process Server, was promoted Assistant Supervisor on 11th September vice George Laing resigned owing to ill-health.

Hassan bin Abdullah, Peon, was promoted Assistant Supervisor on 1st October vice E. Md. Shariff who was transferred as Conservancy Overseer.

Abdul Rahim bin Che Teh, Peon, Electric Supply Department, was transferred to Health Department as Process Server on 8th October.

It is my pleasure to acknowledge the excellent work and co-operation of the staff.

I have the honour to be,

Sir,

Your obedient servant,

J. E. MILLER,

Chief Sanitary Inspector.

Prosecutions	Brought forward from 1939	Issued in 1940	Cases in Court	Convictions	Withdrawn	Discharged	Abatement of Nuisance Order	Mandatory Order	Total orders obtained	Fines		Costs	
										\$	c.	\$	c.
Nuisance Notice...	1	4	4	3	1	...	3	...	3	...	...	1	50
Abatement of Nuisance Order.	1	...	...	...	...	...	...	...	...	...	...	...	...
Limewashing ...	...	1	1	1	...	...	...	...	...	...	..	...	50
Partition ...	1	11	11	11	...	...	...	...	...	22	00	5	50
Drain ...	...	2	2	2	...	...	...	...	...	13	00	1	00
Open Space ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Latrine ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Trade ...	...	23	23	20	...	3	...	...	...	203	00	11	50
Unlicensed Com- mon Lodging House ...	2	39	39	36	2	1	...	...	...	281	50	18	50
Breach of By-laws re Bakery, etc...	7	72	71	70	1	...	...	...	...	348	50	35	00
Food and Drugs ...	...	2	2	1	...	1	...	...	...	...	...	...	50
Breach of By-laws re Pig-keeping...	...	41	39	35	...	4	...	...	...	81	00	19	00
Mosquito Order ...	...	2	2	2	...	...	...	...	...	17	00	1	00
Milk Regulation ...	64	29	25	24	1	...	...	...	...	529	00	67	00
Birth ...	1	...	...	...	...	...	...	...	...	...	...	...	...
Death ...	1	...	...	...	...	...	...	...	...	...	...	...	...
Infringing terms of C.L.H. Licence	...	46	46	46	...	...	...	...	...	1962	00	22	50
Breach of By-laws re Boarding House ...	...	1	1	1	...	...	...	...	...	25	00	...	50
Filthy Premises ...	...	3	2	2	...	...	...	...	...	13	00	...	50
Section 213 re Nightsoil Manuring ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wells ...	...	6	3	1	...	2	...	...	...	3	00	1	50
Total ...	78	282	271	255	5	11	3	...	3	3498	00	186	00

Licences Issued.	1940			1939			Increase.			Decrease.		
	No.	Fees.		No.	Fees.		No.	Fees.		No.	Fees.	
		\$	c.		\$	c.		\$	c.		\$	c.
Atap Depot ...	13	39	00	14	42	00	...	...	...	1	3	00
Bakery ...	17	85	00	18	90	00	...	...	...	1	5	00
Bone Storing ...	3	36	00	3	36	00	...	...	...	...	...	...
Brazier ...	7	14	00	8	16	00	...	...	...	1	2	00
Blachan Storing ...	1	12	00	1	12	00	...	...	...	...	...	...
Blacksmith ...	21	42	00	23	46	00	...	...	...	2	4	00
Coal Depot ...	2	24	00	2	24	00	...	...	...	...	...	...
Cook Shop ...	185	925	00	186	930	00	...	...	...	1	5	00
Charcoal Depot ...	32	192	00	37	222	00	...	...	...	5	30	00
Candle Making ...	8	64	00	9	72	00	...	...	...	1	8	00
Cattleshed ...	14	65	00	14	56	00	...	9	00	...	...	...
Cowhouse ...	35	179	00	38	169	00	...	10	00	3	...	...
Dyeing House ...	1	10	00	2	20	00	...	...	...	1	10	00
Dairy ...	1	6	00	1	6	00	...	...	...	...	...	...
Eating House ...	709	3545	00	729	3645	00	...	...	...	20	100	00
Fresh Fish ...	1	5	00	1	5	00	...	...	...	...	...	...
Fresh Meat ...	35	175	00	34	170	00	1	5	00	...	...	...
Fish Curing ...	12	144	00	8	96	00	4	48	00	...	...	...
Fish Storing ...	26	312	00	29	348	00	...	...	...	3	36	00
Foundry ...	9	18	00	9	18	00	...	...	...	...	...	...
Hawkers ...	6454	4840	50	...	...	...	...	...	...	...	...	...
Hides Curing ...	3	36	00	5	60	00	...	...	...	2	24	00
Hides Storing ...	1	12	00	1	12	00	...	...	...	...	...	...
Hay Storing ...	5	15	00	5	15	00	...	...	...	...	...	...
Kajang Storing ...	5	15	00	5	15	00	...	...	...	...	...	...
Market Garden ...	101	...	...	98	...	...	3	...	...	...	...	...
Milkseller ...	160	160	00	184	184	00	...	...	...	24	24	00
Pig Sty ...	504	1008	00	489	978	00	15	30	...	...	...	...
Pepper Washing ...	...	...	...	...	...	...	...	...	...	...	...	...
Rag & Feather Storing ...	2	24	00	4	48	00	...	...	...	2	24	00
Sugar Boiling ...	9	54	00	8	48	00	1	6	00	...	...	...
Soap Making ...	13	104	00	15	120	00	...	...	...	2	16	00
Sheep or Goats ...	8	18	40	8	22	90	...	...	...	...	4	50
Tannery ...	9	216	00	9	216	00	...	...	...	...	...	...
Wood Depot ...	100	600	00	97	582	00	3	18	00	...	...	...
Common Lodging House ...	566	1237	60	581	1240	20	...	...	...	15	2	60
Boarding House ...	64	64	00	54	54	00	10	10	00	...	...	...
Total ...	9136	14296	50	2729	9618	10	37	136	00	84	298	10